

TEXAS WATCH

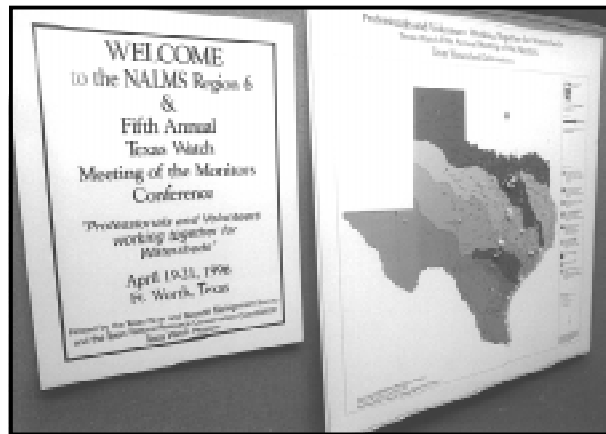
Newsletter of Volunteer Environmental Monitoring Programs in Texas

August 1996

Meeting of the Monitors: Professionals and Volunteers Working Together for Watersheds

The Fifth Annual Texas Watch Meeting of the Monitors and NALMS Region 6 Conference

*Eric Mendelman,
Partnership Coordinator,
and
Thom McInnis,
Nonpoint Source Pollution
Program Coordinator*



shops to help volunteers and professionals work together more effectively.

Watersheds Theme.

The meeting's title, "Professionals and Volunteers: Working Together for Watersheds," expresses the consensus between volunteers and profes-

In February 1991, Texas Watch adopted the vision of professionals and volunteers working together to address environmental issues. This year's annual meeting, "Professionals and Volunteers: Working Together for Watersheds," held April 18 to 22, accomplished several goals toward this vision.

Combined Meeting with TRRMS. Volunteer and professional organizations collaborated to plan and facilitate the conference. Texas

Watch agreed this year to combine its annual meeting with the annual meeting of the Texas Rivers and Reservoir Management Society (TRRMS), the Texas-based arm of the North American Lake Management Society (NALMS). NALMS forges partnerships among citizens, scientists, and professionals to foster management and protection of lakes and reservoirs. This combined sponsorship resulted in a diverse agenda emphasizing academic and technical sessions as well as work-

sionals on the watershed approach to water resource management. It also signifies the recognition by professionals that watershed management is not possible without public involvement: volunteer monitors can be the professional's gateway to the public.

Professional/Volunteer Interaction. The meeting allowed Texas Watch volunteers and professionals to work together on a watershed

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Letter from Gayla, Texas Watch Program Coordinator...

What a busy spring and summer! We hired new staff and summer interns, underwent an extensive program audit, received EPA approval of the revised Quality Assurance Project Plan (QAPP), and hosted a successful Meeting of the Monitors. Our summer schedule has been filled with planning our annual retreat and sorting out possible reductions in the Texas Watch budget. Amid these changes and intense activity, Texas Watch is diligently meeting the goals set last year.

Since the last newsletter issue, several staff changes have taken place. Thom McInnis, Chris Loft, Pat Davis, and three very dedicated, hardworking interns—Tina Dacus, Chris McShane, and Jane Sund—have joined the team. At the beginning of June, Anne Rogers took a position with the Surface Water Quality Monitoring Team at TNRCC. She is missed on the team but remains close by and will continue to work with Texas Watch in other capacities.

Texas Watch's data management and administrative systems were a priority this summer. The interns audited the complex administrative files and database to ensure our record keeping is up to date and complete as required by our QAPP. Pat Davis, the new data manager, implemented major changes in database structure to reconcile our current database with future needs of the program and technological changes within TNRCC.

Texas Watch quality assurance procedures have changed slightly in light of the revised QAPP. Your adherence to these changes, which are noted in the February newsletter, ensures that your sampling will produce high quality data available for use at all levels. As more volunteers (1) attain certification as quality assurance officers and (2) complete the required quality control sessions, there will be frequent opportunities to convey and implement the new QA procedures. This increased activity indicates the significance everyone places on quality assurance. Keep up the great work everyone!

One of last year's goals was to enhance and broaden partnership networks across the state and to seek alternative funding sources. This year's Meeting of the Monitors, co-hosted with the Texas Rivers and Reservoir Management Society, established working relationships with new entities. This fostered collaboration of volunteer and professional monitoring efforts at the local level, especially in new project areas where partnerships are being forged at the onset. In conjunction with partnership diversification, the main alternative funding source being developed with assistance from the advisory council is the Texas Conservation Fund. With the uncertainty of long-term state and federal funding, this activity and support from partners around the state is very important.

There are indications Texas Watch may face budget reductions. Although we will not lose staff, we may be required to adjust our commitments next year. Guidelines for prioritizing tasks that were stated in my letter in the February 1996 issue are still in effect. To ensure our ability to provide quality service, communication will be enhanced by publishing this newsletter every two months. To facilitate these objectives, the program's annual planning session will be devoted to funding issues, prioritizing program commitments, and developing methods of efficient implementation.

Finally, kudos to Tina, Chris, and Jane! On behalf of the Texas Watch staff, we thank you for keeping us in line, cleaning up a few things that were out of order, and reminding us how great it was when we did internships. We wish each of you much success in your future endeavors.

Gayla

Real World Science in Schools? Cool!

■ Ann McWilliams, Environmental Studies Coordinator, Plano Independent School District

Yes, real science is hands-on science. Why not students as scientists? Students doing real science to learn the scientific method, mathematics skills, data analysis skills, higher level thinking skills, team building skills, and writing skills.

Since becoming a certified Texas Watch monitor, I have been working to involve the students of Plano ISD in the water quality testing program. Recently I gathered a few teachers from elementary and high school to assist me in writing a water quality testing curriculum for grades K-12.

The general plan is to use the qualitative data from the Texas Watch data sheet to teach observation skills in grades K-3. In addition, the third grade students will begin taking air and water temperature data. We will use the new LaMotte "Pond Water Tour" Kit with 4th and 5th grade students along with the qualitative data from the Texas Watch data sheet. Grade 6-12 teachers will be certified as Texas Watch monitors and use the established data collection methods with their students.

Almost every school in Plano has a pond or creek within walking distance that can be monitored on a monthly basis by each classroom group participating. Our elementary data will be sent to the city public works department for review, and the data from grades 6-12 will be sent to the Texas Watch program.

My hope is to devise a system to put our students in touch with other students in the Trinity River water-

shed to accomplish data sharing and comparison analyses. If you are interested in sharing data with our students, please contact me by e-mail. I understand that Texas Watch may soon have a home page, and we could then create a subpage for sharing data. Configuring a watershed map showing the location and e-mail address of interested parties would be a neat way to go, I think.

This past spring I piloted the elementary testing with two groups of fourth and fifth graders from our gifted classes at Aldridge and Christie Elementary Schools. They were more than enthusiastic about doing real world science. Students wrote scientific papers reporting their findings and conclusions to me

as the lead scientist of the team. I was impressed with their ability to discuss, analyze, and draw conclusions from the data they collected. A good time was had by all, but more importantly, the experience opened a new world of concern for our waterways.

Using students as scientists can be an approach that inspires children to choose science as a career. We'll see you at the creek!

Ann McWilliams is the Environmental Studies Coordinator for the Plano School District and a certified water quality monitor. She can be reached by e-mail (animace@tenet.edu) or by postal mail at: 2700 W. 15th St., Plano, Texas, 75075. *

Certifications

There are currently seven possible certifications that Texas Watch volunteer monitors can hold. Many of our monitors hold one or more of these certifications. According to our records, a total of 2,418 certificates have been issued since Texas Watch started back in 1991. The awards break down like this:

Texas Watchers:	884
Certified Water Quality Monitors:	1,359
Certified Trainer of Water Quality Monitors:	118
Certified Quality Assurance/Quality Control Officers:	27
Certified Urban Watch Monitors:	23
Certified Trainer of Urban Watch Monitors:	3
Certified Urban Watch Quality Assurance/ Quality Control Officers:	3

Meeting of the Monitors *(Continued from page 1)*

management exercise. This collaboration was made possible by scheduling the meeting to follow an EPA workshop on watershed management. The purpose of the two-day EPA workshop was to develop a model for (1) watershed-based concepts and solutions and (2) increasing cooperation among state agencies, regional councils, river authorities, private consultants, and environmental interest groups in Texas, Louisiana, Arkansas, Oklahoma, and New Mexico.

The conference gave professionals and volunteers the opportunity to meet each other and voice similar concerns for preserving and protecting the quality of our region's waterways and reservoirs. In attendance were citizen volunteers from all points of the compass in Texas as well as professionals representing river authorities, municipalities, and private industries. Academia was represented by college professors, primary and secondary teachers, as well as a blend of students, including students from Baylor University who attended the conference as part of a class requirement. The conference was also attended by representatives of Texas Watch's Oklahoma counterpart, Oklahoma Water Watch. The conference provided ample opportunity for these participants to network, permitting a free exchange of ideas, phone numbers, and business cards. A closer look at the agenda shows why this conference was successful.

Conference/Workshop Highlights. The conference and the EPA

- ♦ *A Comparison of Water Quality Models Used to Recommend a TMDL for Phosphorus in Wister Lake, Le Flore County;* Shanon Haraughty, Oklahoma Water Resources.
- ♦ *Alteration of the Physical and Chemical Structure of a Reservoir Ecosystem During a Year of Extremely High Flow;* T.E. Tietjen and A.W. Groeger, Southwest Texas State University.
- ♦ *Bacterial Populations of Lake Belton Water and Sediment, 1994-1995;* Diana Morgan and Kevin Rutherford, University of Mary Hardin-Baylor.
- ♦ *Bacteriological Quality of Runoff from Nonpoint Source Pollution within the Upper North Bosque River Watershed;* Amy Truman, Tarleton State University.
- ♦ *Biogeochemical Changes in Shallow Oxbow Lakes Mediated by Microbial Dynamics;* J. Cotner, M.W. Suplee, and D.E. Shormann, Texas A&M University.
- ♦ *Data, Now What?* Christine Kolbe and Beth Davis, TNRCC.
- ♦ *Dreissena polymorpha: the Zebra Mussel;* Ricki Chase, University of Texas at Arlington.
- ♦ *Effects of Grass Carp on the Aquatic Macrophytes of North Lake, Texas;* Ken Bickel, University of North Texas.

workshop offered a variety of speakers and presentations. During the EPA workshop preceding the conference, Charles Gardner, former executive director of NALM, spoke on aspects of developing an effective volunteer program. Dr. Michael Smart of the U.S. Corps of Engineers presented an overview for establishing native aquatic plants in ponds and reservoirs. Mike McCollum of the U.S. Fish and Wildlife Service discussed their Partners for Wildlife program in his presentation on developing wetlands for wildlife usage. Clell Guest and Rafe Brock of Texas Parks and Wildlife led an informative seminar on managing ponds and reservoirs for fisheries.

Texas Watch Plenary Session. The Texas Watch/TRRMS conference began with a plenary session featuring Dr. Robert Carlson of the Biology

Conference

- ♦ *Enhancement of Wetlands Proposed for Water Quality Improvement of Area Lake;* Loretta Mokry, Alan Plummer Associates.
- ♦ *Exploring Your Watershed;* Greg Rogers, Christopher Loft, and David Terry, TNRCC.
- ♦ *Freshwater Inflow Studies for the Lavaca-Colorado Estuary (Matagorda Bay), Texas: Part 1. A Salinity Transport Model, Nitrogen Budget and Nitrogen Requirement;* Cinthia Gorham and James Patek, LCRA.
- ♦ *Freshwater Inflow Studies for the Lavaca-Colorado Estuary (Matagorda Bay), Texas: Part 2. Determination of Appropriate Salinity Regimes for the Estuarine Community;* Doyle Mosier, LCRA.
- ♦ *Hydrological Control of Reservoir Ecosystem Structure;* Alan Groeger and Todd Tietjen, Southwest Texas State University.
- ♦ *Investigation of Swampoodle Creek;* James Vaitkus and Delores McCright, Texarkana College.
- ♦ *Monitoring of Fort Worth Storm Drains;* Gene Rattan, City of Fort Worth.

Department at Kent State University and Elizabeth Fellows, chief of EPA's Monitoring Branch. They spoke and answered questions on the role communication plays in developing effective monitoring projects and the success of the 1995 American Secchi Dip in relation to the nationwide strategy for monitoring integration.

Conference Tracks. Following this introductory session, the conference broke into 14 concurrent sessions over the next two days. These concurrent sessions comprised three different tracks: academic, Texas Watch how-to, and professionals and volunteers working together. Each of these tracks featured papers, presentations, and discussions on a variety of topics offering conference participants a wide menu to choose from. A special thanks is extended to all

Presentations

- ♦ *More than Monitors*; Pat Merrill, Salado Creek Preservation Committee.
- ♦ *OC Clean, City of Sugar Land Oyster Creek*; Valerie Falkai, high school student and volunteer.
- ♦ *Phenological Studies to Improve the Management of Hydrilla*; John D. Madsen and Chetta S. Owens, Lewisville Aquatic Ecosystem Research Facility.
- ♦ *Presenting Your Data, from Poster Sessions to the Internet*; John Payne, Sabine River Authority.
- ♦ *Rio Grande Alliance*; Barbara Ostermayer, TNRCC.
- ♦ *Seasonal Variations and Key Factors Regulating Trihalomethanes in Lake Waco*; Robert Mendez, City of Waco.
- ♦ *Teaching Texas Watch*; Anne Rogers, Ann McWilliams, and Darlene Gooris, Texas Watch and Plano ISD Science Learning Center.
- ♦ *The Effects of Rough Fish on Water Quality*; David Shormann and James Cotner, Texas A&M University.
- ♦ *Triploid Grass Carp Evaluation in Private Waters: 1994 Summary*; Cilell Guest, Texas Parks and Wildlife Department.
- ♦ *Untold QA Secrets*; Anne Rogers and Cathy Henderson, Texas Watch and Trinity River Authority.
- ♦ *Urban Lake Restoration through a Community Partnership*; Juli Watterson, Oklahoma Water Resources Board.
- ♦ *Volunteer Citizen Monitoring and the 305(b) Report*; Mike Bira, Clean Lakes Program Manager, EPA Region 6.
- ♦ *Volunteer Data Used by the City of Austin and Structural and Nonstructural Controls in the City of Austin*; Adrienne Boer, Austin Environmental and Conservation Services Department.
- ♦ *Watershed Management in the Real World: A Policy Orientation to Problem Definition*; Dwight Barry, Institute of Applied Sciences.
- ♦ *Watershed Protection at the Community Level: An Urban Case Study*; Susan Branning, Watershed Coordinator, EPA Region 6. *

individuals for their presentations, which were educational, informative, and at times entertaining (see the sidebar on conference presentations).

Field Trips. The Sunday agenda offered field trips to a variety of locations. Visitors to the Lewisville Aquatic Ecosystem Research Facility, an experimental pond facility operated by the US Army Corps of Engineers Waterways Experiment Station, enjoyed a tour of the laboratories and greenhouses of the research facility by staff scientists. The hay wagon tour of the ponds was a tremendous success.

The field trip hosted by the City of Fort Worth Department of Environmental Management offered a hands-on Rapid Bioassessment for visitors to the Lower Sycamore Creek site. Fort Worth staff pro-

vided instruction on EPA Rapid Bioassessment sampling protocols II and V for benthic macroinvertebrates and fish communities. The more adventurous participants waded into the creek to collect specimens of their own.

Awards Banquet. At Saturday evening's formal banquet, Texas Watch awarded certificates of appreciation to individuals for outstanding efforts and support of the Texas Watch Program (see article on the 1996 Texas Watch award winners). Tom McAninch, president of the Texas Watch Advisory Council, addressed the banquet and presented the certificates. Tom, who represents the chemical industry on the advisory council, stressed the importance of training and quality assurance procedures for collecting environmental information.

Evaluation. Overall, participants enjoyed the conference, declaring it a success. Although participants indicated that running conferences and workshops back-to-back over the four and a half days was a bit of a "brain drain," they found the conference informative and a good forum for the presentation and discussion of water quality issues. Some respondents suggested that the lengthy agenda could be shortened by providing workshops at regional meetings throughout the year.

Acknowledgments. The attendance of the participants and the combined efforts of the Texas Watch Staff, the City of Fort Worth Department of Environmental Management, the Trinity River Authority, TRRMS, and NALMS made this conference successful. Special thanks goes to each of these teams. Further thanks goes to the sponsors: the Brazos River Authority, the Houston-Galveston Area Council of Governments, the City of Austin Environmental and Conservation Services Department, Eastman Chemical Company, Hydrolab Corporation, Solomon Liquids, Tarrant County Water District, Texas Instruments-McKinney, KOCH Refining, the Lower Colorado River Authority, and the Upper Colorado River Authority.

After the conference, Texas Watch staff packed the vans and headed home (in record time we might add) for a much needed rest. We took with us great memories, some lessons learned, and exciting ideas for next year's Meeting of the Monitors. If you were not able to make this year's conference, please plan to attend next year's Meeting of the Monitors scheduled for the Austin area. Hope to see you there! *

Christine Kolbe:

Certificate of Appreciation for Outstanding Support of the Texas Watch Program

Christine is an aquatic biologist with the TNRCC's Surface Water Quality Monitoring Team (SWQM). She is currently the coordinator of a multi-phase, bi-national study of toxic substances in the Rio Grande River for the SWQM Team. Christine has B.A.'s in Biology and in Environmental Studies from Northeastern Illinois University in Chicago and an M.S. in Aquatic Biology from Southwest Texas State University. She is the primary author of *Field Guide to Freshwater Ecology*. Christine has supported Texas Watch since the very beginning of the program, assisting Constance Zehner in Houston. She has worked on teams that led hands-on workshops at all five Texas Watch conferences.

Charlie Howell:

Certificate of Appreciation for Outstanding Support of the Texas Watch Program

Charlie Howell received a B.S. in Aquatic Biology in 1983 from Tarleton State University in Stephenville, Texas. He became interested in using macroinvertebrate community integrity as an indicator of water quality and stream habitat conditions when he was unable to find anyone to help collect fish. Charlie is working towards an M.S. in Environmental Science at the University of North Texas in Denton. Employed with the EPA regional office in Dallas since 1991, Charlie's responsibilities include the review of study plans submitted by state and local agencies, assistance with monitoring study designs, and coordination of an ambient toxicity monitoring program. Charlie has been instrumental in the development of the Texas Watch benthic macroinvertebrate monitoring protocol called "Bug Watch" for volunteer monitors.

Delores McCright:

Certificate of Appreciation for Outstanding Dedication to Volunteer Monitoring in 1995 as a Texas Watch Volunteer



Delores McCright, sponsor of Texarkana College Earth Club.

Monitoring in 1995 as a Texas Watch Volunteer Professor Delores McCright has been teaching biology at Texarkana College for 10 years. She is the sponsor for the Texarkana College Earth Club, one of our monitoring groups. Many members are Texas Watch certified, and the club officially "adopted" their test site, Swampoodle Creek, in a commitment to monitor and keep clean a local waterway. As an ongoing research

project, she mentors research students who document chemical and biological parameters at various sites along the creek. She is a certified Texas Watch trainer and has helped train over 60 Texas Watchers.

Greg Fauntleroy:

Certificate of Appreciation for Outstanding Dedication to Volunteer Monitoring in 1995 as a Texas Watch Volunteer

Greg Fauntleroy was one of the first volunteer monitors trained under the Galveston Bay Foundation (GBF). He has been monitoring his neighborhood bayou, Taylor Lake, since July 1992. Now in his fourth year of testing, Greg has been a dedicated Texas Watch volunteer, monitoring weekly, regularly attending quality control sessions, and participating in volunteer support events. He often represents GBF at area festivals to talk about his monitoring involvement with Texas Watch and GBF. He has been instrumental in working out creative solutions to monitoring problems such as monitoring from a bridge and has consistently provided suggestions on how Texas Watch can make the data forms clearer and easier to use.

James Vaitkus:

Certificate of Appreciation for Outstanding Efforts in Volunteer Monitoring through Individual Use of Data

1996 Texas Watch

James Vaitkus, a sophomore majoring in environmental science/biology, is the president of Texarkana College Earth Club, a Texas Watch monitoring group. Jim has incorporated his monitoring data into a year-long study of Swampoodle Creek in Texarkana, Texas, for six hours biology credit. He is currently working on becoming a Texas Watch trainer.

John Ockels:

Certificate of Appreciation for Outstanding Support of Volunteer Monitoring in 1995 as a Texas Watch Trainer

John Ockels serves as environmental coordinator at Texoma Council of Governments (TCOG), the regional planning commission serving Cooke, Grayson, and Fannin counties in Texas, north of the Metroplex. John became the first certified water quality monitor in the region in June 1994 and was instrumental in TCOG becoming a Texas Watch partner that same month. He was certified as a certified water quality trainer in July 1994. Under his management, the Texas Watch program in the Texoma Region expanded in 1995 to include over 50 certified monitors organized into 13 groups monitoring a total of 19 sites. John holds degrees in philosophy, world trade, management, and theological studies and is currently a candidate for a Master of Science in Environmental Management from Wye College, University of London.



Award recipient, Nivra Kelley with Adopt-a-Wetland.

Award Winners

Nivra Kelley:

Certificate of Appreciation for Outstanding Support of Volunteer Monitoring in 1995 as a Texas Watch Trainer

Nivra initiated, developed, and is currently the program coordinator for the Adopt-a-Wetland Program. She is also enrolled in the environmental science master's program at Texas A&M University, Corpus Christi. Nivra has been instrumental in training teachers across the state in Texas Watch through the Adopt-a-Wetland workshops since 1993. To date, over 432 teachers, youth group leaders and education specialists from 89 cities, 43 counties, and two countries have been introduced to Texas Watch through Adopt-a-Wetland workshops. Nivra is also a certified quality assurance officer with Texas Watch.

Scott Carney:

Certificate of Appreciation for Outstanding Support of Volunteer Monitoring in 1995 as a TNRCC Regional Office Employee

Currently, Scott is an environmental quality specialist in the Industrial and Hazardous Waste Program in the TNRCC Region 4 office in Duncanville. Before moving into this position, Scott served as the regional contact for Texas Watch. He was the sole agency contact in the state's most populous region. His responsibilities included providing technical assistance to the public and water quality monitors, planning and conducting orientation, training and quality control sessions, and supplying monitors with kits and replacement parts and reagents. As a member of the Texas Watch, Scott became certified as a water quality monitor, a water quality trainer, an urban watch monitor, and a quality assurance officer.

Diana Bell:

Certificate of Appreciation for Outstanding Support of Volunteer Monitoring in 1995 as a TNRCC Regional Office Employee

Diana Bell is an environmental quality



Fort Worth Department of Environmental Management.

specialist, stream monitor, complaint investigator, and field inspector with the TNRCC in the Region 11 office in Austin. Her undergraduate training is in chemistry and biology, and she has an M.S. in Aquatic Biology. She has supported Texas Watch since its inception. Diana is a certified water quality monitor and trainer with Texas Watch. She takes time to run fecal coliform tests for the San Gabriel River Watch, frequently helps LCRA's Colorado River Watch Network train new monitors, and has assisted in the planning and implementation of several Meetings of the Monitors. With very little resources at her disposal, Diana has kept citizen involvement going in the Austin area. Diana's dedicated work with citizens in her region as a Texas Watch trainer has been an inspiration to other Regional staff in supporting Texas Watch.

Sims Bayou Project, Texas Southern University:

Certificate of Appreciation for Outstanding Support of Volunteer Monitoring in 1995 as a Texas Watch Education Group

Though channelized to a large degree, Sims Bayou remains a picturesque, life-supporting watercourse. Its natural, tree-lined banks provide a scenic view of nature at its best as it coexists and sometimes competes with urban growth and development. The Sims Bayou Project has as its mission the monitoring and enhancement of this beautiful waterway. The project,

started in April 1993, is a collaboration among the TNRCC Region 12 office, the City of Houston, Texas Instruments, and Texas Southern University. Support has also been provided by the Houston Galveston Area Council of Governments and the Galveston Bay Foundation. Through the use of the Texas Watch water quality monitoring protocol, more than 35 volunteers have been trained for this task. The vast majority of the volunteers are students enrolled in the Environmental Health Program at Texas Southern University. Twenty sites have been selected to be monitored by a team of two volunteers per site. They have contributed many hours of work for this project collecting data and reporting problems.

Fort Worth Department of Environmental Management:

Certificate of Appreciation for Outstanding Innovation and Leadership in Supporting Volunteer Monitoring

The City of Fort Worth Department of Environmental Management was created in April 1992, making it one of the few municipal agencies of this kind in the nation. The Department's Water Quality Division began performing investigations in underground storm drain systems in

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Award Winners

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1985 and since then has received numerous awards, most recently the EPA Regional Administrator's Environmental Excellence Award in 1995.

The division had been interested in starting a local volunteer monitoring network for several years and consequently joined the Texas Watch team in 1993. Together, TNRCC and the City of Fort Worth worked diligently for several months to create Urban Watch, a monitoring program designed for the urban environment by monitoring for the pollutants most frequently encountered in storm drain systems. To date, information collected by volunteers has assisted the city in identifying and solving water main breaks as well as other problems.

North Bosque River Monitors:

Certificate of Appreciation for Outstanding Support of Volunteer Monitoring in 1995 as a Texas Watch Group

The North Bosque River Monitors water quality monitoring group was formed in the summer of 1994 to assist Texas Watch with an EPA-funded nonpoint source project on the North Bosque River. The group agreed to monitor five sites on the main stem of the North Bosque and a sixth site on a tributary that receives runoff from several industrial sites. They monitor each site twice a month, including collecting a monthly sample for the Texas Institute for Applied Environmental Research in Stephenville for additional analysis. The certified volunteers include Bob Self, Jay Wilson, Gretchen Walker, Virginia Kennedy, John Hoelter, Bill Gordon, Carole Dean, Bill Muncey, and Christopher Stanley-Stephens. Kennedy has received certification as a trainer and Wilson is now certified as a quality assurance officer.

The North Bosque River Monitors were selected by FMC Corporation as one of 14 projects for recognition on the company's "Environmental Honor Roll" for 1995. This award carries with it a \$1,000 contribution to the monitoring group,

which will be used for Texas Watch activities.

Austin Water Watchdogs:

Certificate of Appreciation for Outstanding Efforts in Volunteer Monitoring through Group Use of Data

The Water Watchdog Program began in April of 1990 to monitor the Town Lake Watershed as part of the diagnostic phase of the EPA Clean Lakes Grant. Watchdog bacteria data was included in the city's final report to the EPA, and thus the Watchdogs became the first citizen monitoring group to have their data published in an official EPA Clean Lakes Grant report. The Watchdogs have also created a regional water quality index used to rate the overall water quality of the nine creeks that feed Town Lake. This assessment rated East Bouldin Creek as the poorest in water quality, which supported the city's decision to direct funds for structural retrofits and public education in this watershed.

John Giles, Coastal Bend Council of Governments:

Certificate of Appreciation for Outstanding Overall Partnership Achievement in 1995 as a Texas Watch Lead Partner

The Coastal Bend Council of Governments has supported volunteer citizen monitors in the Coastal Bend area around Corpus Christi for almost four years. John Giles, environmental coordinator for the COG, has been involved with Texas Watch for two years. As the lead partner for the Coastal Bend Area Texas Watch group, he has worked with Texas Watch industry and nonprofit partners in providing training and quality control sessions for area volunteers. Mr. Giles has also recently become involved with the new Urban Watch program.

Joan Drinkwin:

Certificate of Appreciation for Outstanding Service in Volunteer Monitoring with Texas Watch

Joan was the nonpoint source projects coordinator for Texas Watch from June 1993 to December 1995. She was instrumental in

developing the nonpoint source pollution monitoring projects associated with several EPA 319 grants under Texas Watch. Joan contributed greatly to the training and quality assurance of volunteer monitoring groups throughout the state and represented the program in local, state, and national conferences. She now works for the Puget Sound Water Quality Authority in Olympia, Washington, and continues to support volunteer monitoring efforts in many ways.

Steven Hubbell:

Certificate of Appreciation for Outstanding Service in Volunteer Monitoring with Texas Watch

Steven Hubbell served Texas Watch as communications coordinator and newsletter editor from June 1993 to July 1995. Steven was a tireless supporter of volunteer monitoring and brought new ideas to the Texas Watch program. He was instrumental in forming the TNRCC's own monitoring group, the Walnut Creek Monitors, and always had fresh and interesting ideas and articles in the Texas Watch newsletter. He now coordinates the Lower Colorado River Authority's Colorado River Watch Network in Austin, Texas.

Paul Rodden:

Certificate of Appreciation for Outstanding Service in Volunteer Monitoring with Texas Watch

Paul Rodden began working with Texas Watch in March 1995 as an intern and quickly became an invaluable member of the Texas Watch team. Paul assisted with Texas Watch training events and the 1995 Meeting of the Monitors. He worked at identifying volunteer monitoring locations for the TNRCC's database and on the program's new Adopt East Bouldin Creek project in Austin. After Paul's internship was over he was asked to stay on with the team as a temporary employee and worked primarily as the replacement for the Texas Watch volunteer coordinator who was on family leave. Paul's dedication to Texas Watch continues and is very much appreciated. He is now a program specialist with the TNRCC's Texas Cleanup Program working in the areas of recycling and lake and river cleanup projects. *

Guarding against Reagent Degradation in Texas Watch Test Kits

■ Tom McAninch, past President of Texas Watch Advisory Council and Senior Chemist at Eastman Chemical Company Environmental Laboratory

All test reagents are reactive or they would not be useful for a quick, easy, quantitative field test. Since they are reactive, they will easily degrade under relatively mild conditions. Test kits should never be left in the sun or stored in the car or truck during warm weather. Chemical reactions generally double in speed with every 10 degrees (centigrade) increase in temperature. Therefore, the degradation rate of a test kit stored in a car trunk that reaches 120 degrees on an 80-degree day (49 degrees C and 27 degrees C, respectively) is four times as fast. Day-after-day storage between uses under these conditions will ruin a kit rapidly.

Reagents stored in the sunlight will also degrade. In addition to the temperature issue, many chemicals will undergo photochemical degradation. Silver reagents are familiar examples of photo-sensitive reagents.

Caustic (sodium hydroxide) is susceptible to degradation by the carbon dioxide in the air. Carbon dioxide reacts with caustic to form sodium carbonate. You most often see this as a white solid deposit around the lid of a bottle containing caustic. You may not see it in the reagent bottle, but is it there. If the reagent is to be used for pH

adjustment only, it will probably not be serious, as sodium carbonate is also basic and will raise the pH of a solution. However, if the reagent is to be used as a titrant or a quantitative reagent, the results will be lowered by 50 percent. Monitors should keep a close eye on caustic solutions for the white deposits or cloudy solutions. Caustic solutions should be kept tightly closed when not in use and closed immediately after use. They should be replaced if cloudy or if deposits are present.

Metal reagents (such as zinc, cadmium, aluminum, and magnesium) will react slowly with water or air to form a layer of metal oxide on the surface of the metal granule. This layer of metal oxide will then shield the particle from any further reaction. However, the layer will also prevent the particle from reacting in the test. That is why the metal granules are generally washed with a dilute acid or a complexing agent such as EDTA. This removes the layer of oxide and allows the cleaned metal to react in the test. For instance, in the nitrate test, if the protecting layer is not adequately removed from the cadmium (or zinc), the conversion of nitrate to nitrite may be incomplete and the final result will be low, or negatively biased. In the nitrate test, the EDTA also serves to remove interference from iron.

The degradation of reagents can also give a high result, or a positive

bias. In the dissolved oxygen test, the test result is dependent on the conversion of manganese +2 to manganese +4 by the dissolved oxygen in the sample. However, oxygen from the air can also convert manganese +2 to +4 when air enters the reagent bottle. If this happens too much, the manganese +2 reagent will be contaminated with high levels of manganese +4 and the test result will be high. Sodium thiosulfate solutions are also used in this test and the test involves a quantitative conversion of thiosulfate to sulfate by oxidation of the iodine. Degradation of the thiosulfate solution by atmospheric oxygen is possible and will also generate a high result because the solution will be weaker than anticipated.

Strong oxidizing reagents (such as permanganate, chromates, and dichromate) are also susceptible to degradation, although not generally from atmospheric sources, since air is also an oxidizing medium. These reagents are most often degraded by contamination from use of unclean containers or use of unclean droppers. All glassware should be thoroughly cleaned between uses to prevent contamination and consumption of test reagents. Reagent bottle eye-droppers should be used only for that particular reagent. *

Good Luck and Happy Monitoring!

A Parting Word from Anne Rogers

When I first came on board with the Texas Water Commission June 1, 1992, I had no idea I would end up working in a program that would so drastically change my career path. Fresh out of eight and a half years in the oil patch as a geologist, I had no idea I would end up working for a program as rewarding as Texas Watch. I had only been in the Wastewater Enforcement Section a few months when I met Eric Mendelman, Texas Watch's Partnership Coordinator. After a few brief discussions with him, I realized Texas Watch was where I belonged. Lucky for me they had a new position of "Volunteer Coordinator" open up and so I applied.

Although I had a technical background, it was not in water quality. In fact, I knew very little about water except that it was, like the sun and moon, always there, always constant in our lives. I know one of the strong points of my interview with Eric and Dave Buzan was that I had been a volunteer working with the elderly for over 10 years. I knew how rewarding volunteer work was and what it meant to be supported and appreciated for my efforts. I think they knew they could teach me water quality, but they could never teach someone the "volunteer perspective."

My three years and three months with Texas Watch have been the most rewarding of my career. It is due mainly to you, the volunteer monitors and partners, who give of

yourselves every time you go out to sample or speak to a school about water or train a new group of volunteers. Your dedication to protecting the water resources of Texas has been a constant source of inspiration to me, and I have learned so much from working with each of you. This movement will continue regardless of the changes in the agency and staff who support it. It cannot continue without you. Below, there are two quotes I have framed in my office which I believe say it all regarding my belief in this program.

Never doubt that a small group of thoughtful, committed citizens can change the world.

Indeed it is the only thing that ever has.

—Margaret Mead

In the end we will conserve only what we love, we will love only what we understand, we will understand only what we are taught.

—Baba Dioum

Upcoming Event

Third Annual Texas Recycles Day

On November 15, every citizen, school, business, local government, civic and environmental group in Texas is invited to participate in Texas Recycles Day by pledging to start a new recycling program, expand existing efforts, or by holding a recycling event.

To encourage pledges, great prizes will be given away, including a 1996 Jeep Wrangler. A random drawing from recycling pledges will be held at the Capitol in Austin on November 15.

For instruction on how to pledge, or for additional information about Texas Recycles Day, call the TNRCC's Environmental Information Line at 1-800-64-TEXAS. *

Texas Watch Partner Meeting in Review

■ Eric Mendelman, Partnership Coordinator

Twenty-three Texas Watch partners met this year at the annual partner meeting in Fort Worth. The two-day agenda covered Texas Watch program development, funding, quality assurance, and data management. Texas Watch staff even put partners to work (!), asking them to complete a lengthy data management survey while the staff blocked the doors. To balance these weighty topics and grueling work schedule, partners and Texas Watch staff made time for relaxed round table discussions and a dinner of fried gator and chocolate cake.

Several speakers contributed to the meeting: Tom McAninch, Eastman Chemical's representative to the Texas Watch Advisory Council, updated partners on new directions for the council; Lenny McLaughlin, director of the Texas Conservation Fund, helped lead a discussion on funding strategies; Eric Mendelman provided information on building and evaluating partner networks; Gayla Campbell, Texas Watch team leader and Anne Rogers, formerly Texas Watch Volunteer coordinator, led discussions on nutrient monitoring, quality assurance, and data management; Chuck Dvorsky, manager of the TNRCC Clean Rivers Program (CRP) and Dr. Richard Browning with the Trinity River Authority, presented information on the reauthorization of the CRP. The following paragraphs summarize topics discussed in the meeting.

The Texas Watch program continues to evolve in several areas. Mid-year partner activity reports have recorded close to \$150,000 worth of in-kind support for Texas

Watch activities. This surpasses Texas Watch's goal of documenting over \$100,000 of in-kind support from Texas Watch partners for the entire year. The \$150,000 figure represents approximately one-third of in-kind support for Texas Watch from all sources.

The advisory council adopted bylaws this year that resulted in the election of officers and established administrative and technical work groups. The administrative committee will focus on developing the relationship between Texas Watch participants and the Texas Conservation Fund (TCF), a nonprofit organization designed to build resources for government programs. Meeting participants helped the Texas Watch staff develop a "wish list" designed to direct the efforts of the Advisory council in finding resources for partners and volunteers. The issues suggested for the technical committee include data management, reviewing the benthics Quality Assurance Project Plan, and an evaluation of nutrient testing.

Texas Watch continues to add new variables and to modify its quality assurance program. As interest in nutrient testing has grown, partners are cautioned not to rush into offering nutrient testing for monitors without an awareness of the high variability between tests, uncertainty about the stability of reagents, and the implications of these two issues for the reliability of the data. Modifications in quality assurance/quality control changes appeared in the February '96 newsletter. These include changes in quarterly duplicates schedule, new data categories, and QC session options on location and equipment.

Statewide programs that work in conjunction with Texas Watch are also changing. Funding for the CRP will end next year (August 31, 1997) unless the Texas Legislature reauthorizes the program. Stakeholders, including volunteer monitors, will play a significant role in the CRP's evolution from an assessment program to a program that implements water management strategies. It was agreed by all partners that Texas Watch activities would continue even if CRP expires but perhaps not at the current level of activity. This agreement was reinforced by a recognition of the importance of diversifying regional partner networks and using the TCF to generate resources.

Improving the flow of data from volunteer to partner to TNRCC and back to volunteer remains a challenge for partners and Texas Watch. The "doors-barred" survey helped Texas Watch identify groups that do not have a designated partner to manage their data. The survey also revealed that most partners were not using the DRIPS program to manage their data, partners are able to perform data management and complete station location forms adequately, about half of the partners report and analyze volunteer data in a variety of ways, and most partners felt that regional reports were the most helpful versus statewide summaries of volunteer data.

At the meeting's conclusion, partners felt they worked hard, but enjoyed the opportunity to step back from their programs and think about next steps for 1997. Thanks to the partners and everyone who attended. *

Letter from the Editor

This issue offers a wide range of articles varying from a recap of the Meeting of the Monitors and quality assurance information on reagents to an article on the Texas Watch Partner Meeting. There is another important aspect to this newsletter—reaffirming our commitment to continuous communication with our volunteer monitors throughout the state.

One of the driving forces behind Texas Watch for those of us in the central office is to support our volunteer monitors and partners to the best of our ability. One mechanism for providing this support is communicating regularly with our monitors. In an effort to accomplish this goal, Texas Watch will begin

publishing our newsletter every two months starting with this edition. This newsletter is for our volunteers, for all of you who give so willingly of your time and commitment to Texas Watch, and we would like to acknowledge you and your efforts in future newsletters.

Please consider sending in articles, essays, and photography or just little anecdotes about monitoring experiences, information that proved useful to you and may aid numerous other monitors. We cannot guarantee that every item will be used in the subsequent edition, but we would enjoy hearing from you. If you find something worthwhile as a monitor, it is a safe assumption that other monitors will

benefit from the same information. We hope you had a good summer and happy monitoring!

You can send material by postal mail to:

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by fax to:

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or by e-mail to:

(tdacus@smtpgate.tnrcc.state.tx.us).

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*Please remember to add the Texas Watch
mail code to all correspondence:*

MC-150

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This newsletter is compiled and written in the Water Planning and Assessment Division, with editorial and production assistance from the Public Information & Publications Division. Please contact Texas Watch at (512) 239-4720 if you have questions or comments about this publication, or if you would like to be added to the mailing list.

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